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WIRELESS BICYCLE COMPONENT CONTROL

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority to Japanese Patent Application No. 2016-176709, filed on Sep. 9, 2016. The entire disclosure of Japanese Patent Application No. 2016-176709 is hereby incorporated herein by reference.

BACKGROUND

Field of the Invention

The present invention generally relates to a bicycle component and a communication device of a bicycle component.

Background Information

Japanese Laid-Open Patent Publication No. 2015-27861 (Patent document 1) discloses one example of a known bicycle component that includes a communication device configured to perform wireless communication.

SUMMARY

It is preferred that a communication device be easily replaced, for example, to update data of the communication device. It is an object of the present invention to provide a bicycle component that facilitates replacement of a communication device and a communication device of such a bicycle component.

In a first aspect of the invention, a bicycle component includes an operation member, a power generator that generates power in a state in which the operation member is operated, a communication device that transmits a wireless signal with the power generated by the power generator, and an attachment portion to which the communication device is attached in a removable manner. The communication device is attachable to another attachment portion of another bicycle component in a removable manner. Since the communication device is attachable to another attachment portion of another bicycle component in a removable manner, the communication device is easily replaced.

In a second aspect of the invention, in the bicycle component according to the first aspect, the attachment portion includes a recess into which the communication device is insertable. Thus, the communication device is guarded by the attachment portion.

In a third aspect of the invention, in the bicycle component according to any one of the preceding aspects, the communication device is configured to be attached to the attachment portion so that the communication device is at least partially exposed from the attachment portion. This limits interference of the attachment portion with travel of the wireless signal, which is transmitted from the communication device.

In a fourth aspect of the invention, the bicycle component according to any one of the preceding aspects further includes a base including an inner cavity. The attachment portion is arranged in the base so that the communication device is at least partially located in the inner cavity. This limits projection of the communication device out of the base.

In a fifth aspect of the invention, the bicycle component according to any one of the preceding aspects further

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includes a cover member attached to the base. The cover member covers the communication device. This limits damages to the communication device.

In a sixth aspect of the invention, in the bicycle component according to any one of the preceding aspects, the cover member includes a resin material. This limits interference of the cover member with travel of the wireless signal, which is transmitted from the communication device.

In a seventh aspect of the invention, in the bicycle component according to any one of the preceding aspects, the base is coupled to a handlebar of a bicycle. Thus, the communication device can be located in the vicinity of the handlebar of the bicycle. This allows the user to easily operate the bicycle component.

(8) In an eighth aspect of the invention, in the bicycle component according to any one of the preceding aspects, in a state in which the base is coupled to the handlebar of the bicycle, the attachment portion is located at a side of the base that is closer to a center of the bicycle.

Thus, the communication device, which is attached to the attachment portion, is located in the vicinity of the center of the bicycle. This limits interference of the user with travel of the wireless signal, which is transmitted from the communication device.

In a ninth aspect of the invention, in the bicycle component according to any one of the preceding aspects, the communication device includes a transmission circuit that transmits the wireless signal and a communication device body that includes the transmission circuit. This limits damages to the transmission circuit.

In a tenth aspect of the invention, in the bicycle component according to any one of the preceding aspects, the attachment portion includes a card slot. The communication device body has a form of a card that is insertable into the card slot. This allows the user to easily attach and remove the communication device.

In an eleventh aspect of the invention, in the bicycle component according to any one of the preceding aspects, the communication device body includes a housing. The transmission circuit is arranged in the housing. This limits damages to the transmission circuit.

In a twelfth aspect of the invention, the bicycle component according to any one of the preceding aspects further includes a connection portion that electrically connects the communication device and the power generator. The communication device is separated from the power generator. This increases the degree of freedom for arranging the communication device and the power generator.

In a thirteenth aspect of the invention, in the bicycle component according to any one of the preceding aspects, the wireless signal is a signal that controls operation of a bicycle component including an actuator. This eliminates the need of a wire for transmitting a signal to the bicycle component. Thus, the structure of the bicycle is simplified.

In a fourteenth aspect of the invention, in the bicycle component according to any one of the preceding aspects, the bicycle component including the actuator includes at least one of an electric shift device, an electric adjustable seatpost, an electric suspension, and an electric assist unit. This eliminates the need of a wire for transmitting a signal to at least one of the electric shift device, the electric adjustable seatpost, the electric suspension, and the electric assist unit. Thus, the structure of the bicycle is simplified.

In a fifteenth aspect of the invention, in the bicycle component according to any one of the preceding aspects, the communication device is attachable in a removable manner to an attachment portion of a bicycle component